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ABSTRACT

A study assessed the effectiveness of the delivery and content of the Human Relations course and the technical updating activities for postsecondary, full-time preparatory program instructors in Iowa. Faculty members from 15 community and technical colleges were asked to identify how necessary they feel each competency is to the teaching process, to assess the level of attainment of competencies contained in the human relations course, and to indicate to what extent they are currently able to apply the competencies to their classroom situation. Findings indicated a need to look more closely at emphasis placed on certain competencies in the course. While most respondents expressed concern about being required to take the course, they felt the course is necessary. Results also indicated strong use of the competencies. The instructors failed to demonstrate an understanding of the vocational-technical teaching field of the community college teaching faculty. Technical update activities delivered by or available from business and industry rated higher in effectiveness than in appeal. Ninety percent of respondents indicated technical updating should be required in the teaching field. Over half found it important that paid release time be available for technical updating. Eight recommendations are offered and the survey instrument is appended. (YLB)

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State of Iowa

DEPARTMENT OF PUBLIC INSTRUCTION

Teacher Education and Certification Division

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PROJECT TITLE:

"Determination of the Effectiveness of the Delivery and Content of the Human Relations Course and Technical Updates for Post-Secondary, Full-Time Preparatory Program Instructors in the State of Iowa"

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June 30, 1986

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TABLE OF CONTENTS

	PAGE
CHAPTER I. INTRODUCTION	1
Background	1
An Iowa Perspective	4
Need for the Study	5
Statement of the Problem	5
Purpose of the Study	6
Hypotheses Tested	7
Delimitations of the Study	12
Definition of Terms	13
Summary	15
CHAPTER II. METHODS AND PROCEDURES	16
Sources of Information	16
Selection of Population	18
Data Treatment Analsys	21
Summary	23
CHAPTER III. FINDINGS	25
Analysis of the Responses to SECTION I.	25
Delivery and Content SECTION II.	33
Provider Information	38
Respondent Information	43
Technical Updates	46
Respondent Information Concerning Technical Updates	51

Organizational Information 58

Statistical Analysis 61

Limitations of the Study 87

Discussion-Human Relations 88

Discussion-Technical Updates 90

Recommendations 92

Concluding Statement 94

LITERATURE CITED 95

APPENDIX A. SURVEY INSTRUMENT 97

TABLE OF TABLES

Table 2.1 Rate of Return on Survey Instrument 20

Table 3.1 Summary of Responses 28

Table 3.2 Necessity, Attainment, and Usefulness 29

Table 3.3 Ranking of Need, Attainment and Use 31

Table 3.4 Competencies Ranked 32

Table 3.5 Instructor Attributes 34

Table 3.6 Instructor Attributes - 1985 Study 37

Table 3.7 Effectiveness of Technical Updates 49

Table 3.8 Comparison of Effectiveness and Appeal 50

Table 3.9 Cross-tabulation of Attainment by Use 65

Table 3.10 Cross-tabulatoin of Attainment by Need 66

Table 3.11 Cross-tabulation by Level of Interference with Teaching Schedule 69

Table 3.12 Cross-tabulation by Educational Level Test Out 72

Table 3.13 Formal Staff Development Programs 76

Table 3.14 Ranking of Technical Updates by Effectiveness 78

Table 3.15 Ranking of Technical Update by Total Years of Teaching Experience 80

Table 3.16 Ranking of Technical Update (d.) and the Educational Level 82

Table 3.17 Ranking of Technical Update (i.) and the Educational Level 83

Table 3.18 Ranking of Technical Update (h.) and the Total Days Invested 86

CHAPTER I. INTRODUCTION

Background

In the State of Iowa over the past twenty years, the community colleges have experienced a great deal of change. Flexibility as well as the ability to adapt to change are almost second nature to the community college structure throughout the nation.

Along with this need for change has come the demand on the part of the public for the community colleges and their faculties to remain up to date in the various technical fields of study. Faculty members who teach vocational-technical education courses are continually challenged to stay current with changes in their particular fields of expertise. Pressure is brought on by cooperative field experience supervisors, clinical experience trainers, employing businesses & industries, etc. The student/graduate who is placed in training sites must be adequately prepared to assume the responsibilities placed upon them. Faculty of community colleges must then be technically up-to-date to assure that classroom and laboratory learning experiences are as true-to-life as possible for the student/graduate.

Academic deans and directors have traditionally viewed professional development as being more appealing to faculty in their earlier years of teaching (Centra, 1976 and Smith, 1980). This has been found to be the case in both arts & sciences as well as vocational-technical faculty, particularly during the initial one to three years of their teaching career (Shepard, 1979).

Vocational-technical faculty have been perceived to have had greater opportunities for professional upgrading than their counterparts in arts and science divisions, especially at the community college level (Cohen and Brawer, 1982). Cohen and Brawer indicated that the tremendous increase in program offerings in community colleges occurred primarily in the career education programs.

Centra (1979) and Smith (1980) also examined institutional policies and procedures as perceived by the academic deans. They found unpaid study leaves perceived as effective by 47% and 55% of the deans surveyed, respectively. Educational leaves of absence, with at least half salary, were viewed effective by 60% of the colleges surveyed in Centra's study and 62% of the colleges surveyed in Smith's study.

In a recent study conducted by Miller (1985), it was determined that the average faculty member in Iowa's community colleges had participated in more than 160 hours of professional improvement activities during a single year. A significant proportion of of these hours were outside of normal working time and were personally financed. The findings of the Miller study suggest that it would be beneficial for community colleges to assess faculty participation in all forms of professional development, not just those sponsored or financed by the college. Also, the assessment of actual participation by faculty, rather than perceptual reports of such participation, may provide a more accuate basis for judging the value of such activities to institutional renewal.

Concerns for staff development and the thrust for the development and implementation of programs for improving instructional staff skills have been the focus of attention of several organizations for the past several years. This emphasis came, of course, as a result of the changes which have occurred in community colleges during the past 15 to 20 years. More importantly, however, it was an indication that institutions, their faculty, administration and students were becoming more concerned for the quality of education which was being offered and/or received.

Schultz (19, p. 22-28) sees this period as one of stabilization of community college staffs, after a decade or more of rapid expansion. He recognizes the need to change the focus of staff development from orientation of new personnel to keeping staff professionally vital and up to date.

Declining rate of growth has resulted in a lower turnover rate of staff members responsible for instruction. As was pointed out by Centra (1976), there has been a decrease in faculty mobility due to a declining rate of growth of post-secondary education. With less turnover, and less new blood, colleges can no longer depend upon new staff to help keep them vital; nor can teachers broaden perspectives simply by changing jobs.

An Iowa Perspective

Since 1978, instructional staff in Iowa have been required to take a course in human relations as a requirement for recertification. This course has been provided by public and private institutions of higher education, area educaton agencies, and other agencies which have received approval from the State Department of Public Instruction.

Additionally, faculty members have become involved in a variety of technical updating activities, both as a part of their contract, as well as on their own time. Some of the activities may have been an integral part of a formal education leading to a degree.

There is a three-fold need to be certain that the time spent by the faculty member in completing "the Human Relations course" and the "technical update" offerings or opportunities is the best use of their time. Secondly, that this effort results in the furthering of the faculty member's professional development. And thirdly, that the ultimate results of this effort is better service to the students who enroll in the courses and programs in which the faculty member teaches. The goal of the Human Relations course is more to impact the "how" of the course, while the goal of the technical upate offerings should be to impact more of the "what" of the course taught by the instructor.

Need for the Study

The purpose of this project was to determine the effectiveness of the delivery and content of the Human Relations course and technical updates for post-secondary, full-time preparatory program instructors in the State of Iowa. In a time of limited resources, there is a need to be certain that the funds which are expended on such courses and workshops are of benefit to the teaching faculty.

Statement of the Problem

Many of the instructional staff members at the community college level, particularly those faculty members in the vocational-technical teaching fields, have not been prepared by teacher-education institutions as teachers, as a part of the necessary requirements for teacher certification. For the past six years these faculty members have been required to take the course Human Relations as a requirement of the recertification process.

Additionally, many of these same faculty members have either been required to participate in techincal updating activities, or have voluntarily participated in technical updating courses and workshops.

Purpose of the Study

The purpose of the study has been to assess the effectiveness of the delivery and content of the Human Relations course and the technical updates for post-secondary full-time preparatory program instructors in the State of Iowa.

Although this project will have an impact upon the entire Personnel Development In-Service Program in the State of Iowa, it was not designed to analyze all aspects of the system.

It is designed as a follow-up to the study conducted in 1985 by the same researcher. Reference is made throughout to that study entitled "Determination of the Effectiveness of the Delivery and Content of the Personnel Development In-Service Program in the State of Iowa", where comparisons seem germaine.

Hypotheses Tested

The responses used in testing the hypotheses were gathered in accordance with the rating scales which are described later in this document. The hypotheses which were studied include the following:

Hypothesis 1: There is no significant difference between the assessment of the instructor of the Human Relations course and which agency/institution provided the instruction.

Hypothesis 2: There is no significant difference between the assessment of the instructor of the Human Relations course and how the course was taken.

Hypothesis 3: There is no significant difference in the assessment of the instructor of the Human Relations course and the degree of interference caused to the faculty member's work schedule.

Hypothesis 4: There is no significant difference in the responses of faculty as to who should determine the schedule of classes and the institution at which they teach.

Hypothesis 5: There is no significant difference between the providers of the Human Relations course and the degree of attainment of the competencies by the respondents.

Hypothesis 6: There is no significant difference between the level of attainment of the competencies and the extent to which the faculty member is able to use the competency.

Hypothesis 7: There is no significant difference between the attainment of the competencies and the perceived necessity for each competency in the teaching assignment.

Hypothesis 8: There is no significant difference between the levels of education of the faculty member and their assessment of the instructor providing the Human Relations course.

Hypothesis 9: There is no significant difference between when the Human Relations course should be required and the institution at which the respondent taught.

Hypothesis 10: There is no significant difference between the degree of schedule interference and the institution at which the faculty member taught.

Hypothesis 11: There is no significant difference between who should be authorized to offer the Human Relations course and the institution at which the faculty member taught.

Hypothesis 12: There is no significant difference between whether there should be a separate course for elementary/secondary faculty and community college faculty and the institution at which the faculty member taught.

Hypothesis 13: There is no significant difference between the teaching field of the faculty member and who should determine the schedule of course offerings.

Hypothesis 14: There is no significant difference between whether the respondents should have been given the opportunity to have tested out of the Human Relations course and their educational level.

Hypothesis 15: There is no significant difference between the teaching field of the faculty member and when they felt the Human Relations course should be required.

Hypothesis 16: There is no significant difference between the teaching field of the respondent and the extent to which their teaching schedule interferred with their ability to complete the Human Relations course.

Hypothesis 17: There is no significant difference between the field of teaching of the faculty member and who should be authorized to offer the Human Relations course.

Hypothesis 18: There is no significant difference between the total years of teaching experience at the current institution and who should be authorized to offer Human Relations courses.

Hypothesis 19: There is no significant difference between the total years of prior teaching experience and who should be authorized to offer the Human Relations course.

Hypothesis 20: There is no significant difference between the total years of working experience and who should be authorized to offer the Human Relations course.

Hypothesis 21: There is no significant difference between the institution at which the faculty member taught and whether there is a formal staff development program at their institution.

Hypothesis 22: There is no significant difference between the ranking of the types of technical updates and the effectiveness of the activities.

Hypothesis 23: There is no significant difference between the ranking of the types of technical updates and the total years of teaching experience of the faculty member at their present institution.

Hypothesis 24: There is no significant difference between the ranking of the types of technical updates and the total years of work experience in business and industry.

Hypothesis 25: There is no significant difference between the ranking of the types of technical updates and the educational level of the faculty member.

Hypothesis 26: There is no significant difference between the ranking of the types of technical updates and which institution the faculty member teaches.

Hypothesis 27: There is no significant difference between the ranking of the types of technical updates and the teaching field of the respondent.

Hypothesis 28: There is no significant difference between the ranking of the types of technical updates and the obsolesence of the faculty member's teaching field.

Hypothesis 29: There is no significant difference between the ranking of the types of technical updates and the frequency at which the faculty member feels technical updates should be required.

Hypothesis 30: There is no significant difference between the ranking of the types of technical updates and the number of activities in which the faculty member participated.

Hypothesis 31: There is no significant difference between the ranking of the types of technical updates and the percent of paid time.

Hypothesis 32: There is no significant difference between the ranking of the types of technical updates and the total number of days the respondent invested in technical updating in a typical year.

Delimitations of the Study

This study dealt with the assessment of the effectiveness of the delivery and content of the Human Relations course and technical updates for post-secondary, full-time preparatory program instructors in the State of Iowa. Although the Human Relations course and the technical updates have been offered for some time now, it ws not the purpose of this study to assess the effectiveness of the Human Relations courses offered more than six years ago. In addition, only those individuals that were required to take the Human Relations course in the past seven years were asked the questions concerning technical updates. It is realized that other faculty members have participated in technical updates, however, it would have necessitated duplicating the study and including two separate questionnaires sent to two separate sampled populations.

Although faculty members at the secondary level are required to take the Human Relations course, as are many community college arts & science faculty members, they were not considered as a part of this study. The institutions which were sampled in conducting this study consisted of the fifteen community and technical colleges in Iowa. A random sample was taken from a

listing provided by the State Department of Public Instruction of all faculty members who hold a pre-professional teaching certificate in the field of vocational-technical education.

There was no attempt made to stratify the sample based upon disciplines within the vocational-technical teaching field due to the fact that many of the institutions contained very small numbers of faculty members in some of the categories, and some contained no faculty members.

Definition of Terms

Specific operational terms or phrases used in this project are defined as follows: (10, p. 3-73)

Area Vocational-Technical School: A school or program involving a large geographical territory usually including more than one local basic administrative unit. It offers specialized vocational or technical education to persons who have completed or left high school and are available for full-time study. These schools (colleges) are sponsored and operated by local communities or by the state.

Community College: A two-year post-secondary institution operated by the board of education of a local basic administrative unit or units (including the independent local board for one or more community colleges). Instruction is adapted in content, level, and schedule for the various needs of the local community.

Faculty Development/Staff Development: An educational process that includes those policies, plans, and procedures in which professionally related needs and tasks serve as the basis for the educational program of employed teachers and are focused on curriculum; improvement of instruction; technological changes; development of new techniques, materials, or devices; and attainment of identified objectives. The program(s) should serve both the educational development of the teacher and the advancement of education. In-service training is a self-renewing mechanism.

Teacher-Educator: A person in the field of education responsible for the preparation and in-service training of teachers and one who assists teachers or prospective teachers in securing the professional knowledge, ability, understanding, and appreciation which will enable them to meet certification requirements or to advance in teaching positions.

Vocational Education: Vocational or technical training or retraining which is given in schools or classes (including field or laboratory work and remedial or related academic and technical instruction). Education under public supervision and control or under contract with a state board or local education agency and conducted as part of a program designed to prepare individuals for gainful employment as semi-skilled or skilled workers or technicians or sub-professionals in recognized occupations. The term excludes any program designed to prepare individuals for employment in occupations generally considered professional or which require a baccalaurete or higher degree.

Summary

To enable the State Department of Public Instruction to adequately make decisions as to the future direction of the Human Relations course and technical updates, it was necessry to conduct this study. The purpose of this study was to provide an assessment of the effectiveness of the delivery and content of the Human Relations course and the technical updates for post-secondary, full-time preparatory program instructors in the State of Iowa.

CHAPTER II. METHODS AND PROCEDURES

Sources of Information

This study resulted from a need to better understand community college vocational-technical instructors' attitudes toward the effectiveness of the Human Relations course offered by numerous public and private institutions and agencies in the State of Iowa. Although this project will have an impact upon the entire personnel development in-service program, it was not designed to analyze all aspects of the system. The scope of this effort was limited to factors of personnel development which include the Human Relations course and the technical updates.

This project was designed to assess the effectiveness of the delivery and content of the Human Relations course and the technical updates. More specifically, the faculty members surveyed were asked to 1) identify how necessary they feel each competency is to the teaching process, 2) assess the level of attainment of competencies contained with the Human Relations course, and 3) indicate to what extent they are currently able to apply the competencies to their classroom situation.

Each respondent was asked to assess the overall effectiveness of the instructor of the Human Relations course with regard to the following criterion: (Attributes)

1. Appeared qualified to teach the course.
2. Established objectives and taught toward them.
3. Attempted to understand my voc-tech teaching field.
4. Demonstratred a positive role model for me.
5. Was prepared to teach each lesson.
6. Used class time efficiently.
7. Presented material clearly.
8. Was concerned with helping me apply the competencies to my own classroom.
9. Was enthusiastic.
10. Evaluated outcomes of the course appropriately.

11. Used class time effectively.
12. Varied teaching methods used in this course.
13. Used appropriate teaching methods for this course.
14. Taught me to use competencies in working with my student' human relations.
15. Used good human relations in dealing with me as an individual.

The respondents were also asked to provide input relative to provider information, respondent information, and technical updates. The survey instrument (See Appendix A) was designed with extensive input from a Task Force made up of the following individuals:

1. Carroll Bennett, Des Moines Area Community College
   Ankeny, Iowa
2. Curt VanGilder, Area Educational Agency Eleven
   Ankeny, Iowa
3. George Warren, Hawkeye Institute of Technology
   Waterloo, Iowa
4. David Palmer, Southwestern Community College
   Creston, Iowa
5. Dale Cummings, Western Iowa Tech
   Sioux City, Iowa
6. Ron Jarchow, State Department of Public Instruction
   Des Moines, Iowa

A day-long session was held in Ankeny to establish the parameters for the project and to develop the survey instrument. The survey was then formulated and mailed to the Task Force members for review. Each member was asked to share the instrument with other staff members on their campuses or within their agency who might provide an assessment of the format and content. After input was received from the Task Force members, the survey was revised, returned to the members for final review and preparations were made for mailing.

Selection of Population

A computer generated list was provided by the State Department of Public Instruction of instructors in the State of Iowa who have been certified to teach vocational-technical education courses/programs during the past seven years. A representative sample of at least 75% of the total population was drawn for use in this survey.

A total of 165 instructors were randomly sampled from the total population of 220 drawn from the computer. The survey instruments were mailed to each community college campus to the attention of the Vocational-Technical Director as indicated below:

1.	Area I	Darwin Schrage
2.	Area II	Bill Rich
3.	Area III	Ron Della Croce
4.	Area IV	Bruce Waddingham
5.	Area V	Mel Schroeder
6.	Area VI	Bev Nelson
7.	Area VII	Ross Thomas
8.	Area IX	David Claeys
9.	Area X	David Jensen
10.	Area XI	Carol Spencer
11.	Area XII	Bill Walker
12.	Area XIII	Jack Gell
13.	Area XIV	Robert Ernst
14.	Area XV	Charles Lawson
15.	Area XVI	Ed Schiefer

Each Vocational-Technical Director was asked to deliver the survey instruments to the faculty members as indicated on the enclosed letter with the faculty member's name on the label. Once the survey instruments were completed, they were sealed in an envelope by the instructors and returned to the Vocational-Technical Director and returned by mail for analysis.

The rate of return of the survey instrument for each institution is indicated in table 2.1 A total of 87.1441 of those individuals surveyed completed the forms and returned them in a usable manner. Other surveys were returned; however, they could not be used because they were incomplete or incorrectly completed.

The colleges that were used in this study included all fifteen (15) area community and technical colleges and are listed by name as follows:

1.	Area I	Northeast Iowa Technical Institute
2.	Area II	North Iowa Area Community College
3.	Area III	Iowa Lakes Community College
4.	Area IV	Northwest Iowa Technical College
5.	Area V	Iowa Central Community College
6.	Area VI	Iowa Valley Community College District
7.	Area VII	Hawkeye Institute of Technology
8.	Area IX	Eastern Iowa Community College District
9.	Area X	Kirkwood Community College
10.	Area XI	Des Moines Area Community College
11.	Area XII	Western Iowa Technical College
12.	Area XIII	Iowa Western Community College
13.	Area XIV	Southwestern Community College
14.	Area XV	Indian Hills Community College
15.	Area XVI	Southeastern Community College

Table 2.1 Rate of Return on Survey Instruments

Area School	Number Sent	Number Returned	Percent Returned	Percent of Total Return
Area I	10	10	100%	6.9%
Area II	4	1	25	.2
Area III	8	7	88	4.9
Area IV	13	13	100	9.1
Area V	10	8	80	5.6
Area VI	8	5	63	3.5
Area VII	18	16	89	11.2
Area IX	9	4	67	2.8
Area X	20	19	95	13.2
Area XI	15	14	93	9.7
Area XII	13	10	77	6.9
Area XIII	13	12	92	8.4
Area XIV	5	3	60	2.1
Area XV	13	13	100	9.1
Area XVI	9	9	100	6.4
Totals	165	144	87%	100.0%

Data Treatment Analysis

The following procedures were utilized to answer the research questions in this study:

1. The null hypotheses were developed.
2. The statistical tests were determined.
3. The significance levels for rejecting the null hypotheses were determined.
4. The statistical tests were computed for each hypothesis.
5. The hypotheses were either rejected or failed to be rejected on the basis of the probability level supported by the statistical tests.

Since the hypotheses have already been stated in Chapter I, this section will begin with the manner in which the statistical tests were determined. The statistical tests were determined after considering the hypotheses, the chosen sample statistic, and the assumptions concerning the population distributions.

Having randomly selected a relatively large sample (N=220) and the ensuing consistency of the selected population (in that they were all community college instructors in Iowa), the assumptions of normality and homogeneity of variance were made. Kerlinger, in addressing random assignment presents a rule: "When a sample of a population has been drawn at random, it is possible to make statements about the characteristics or the relations between characteristics in the population" (17, p. 60).

The date collected by the survey instrument were coded for analysis by Statistical Package for Social Science (S.P.S.S.X.). The rating scale on the survey instrument for 1) the assessment

of necessity of the competencies, 2) the assessment of the extent to which the faculty member is able to use the competencies, and 3) the assessment of the attainment of the competencies, utilized a 1 - 5 point scale. The overall assessment of the instructor of the course Human Relations utilized a 1 - 5 point scale as well.

A series of t-tests were computed between the instructors from the various institutions based upon the demographic characteristics gathered in the instrument. The results of the t-tests were reported in the tables by indicating the homogeneity of the F value which resulted from placing the larger variance over the smaller variance. (17, p. 140-142).

In addition, the following tests were conducted to analyze the data, for which the reporting is provided in Chapter III of this report:

1. t-tests
2. Chi-Square Test

The computational analysis of the data collected in this study are reported in Chapter III. The analysis of the responses of the teachers as grouped by the demographic characteristics required still another form of statistical testing. The Chi-Square test was used in this instance. The use of the Chi-Square in testing hypotheses involves a two-way classification of the actual data with respect to two non-continum characteristics (17, p. 272-277).

The reporting format in this study uses the .05 and .01 levels of significance utilized in determining the significance of all statistical results obtained by calculations of the t-test the Chi-Square. The symbol (*) was used in the tables

provided in Chapter III to designate statistical findings that were significant at the .05 level, while the symbol (**) was used for highly significant statistical findings at the .01 level of significance.

Summary

This study began in August 1985, as a result of a proposal which was submitted to the State Department of Public Instruction by Allen, Austin, and Associates. This study was designed to assess the effectiveness of the delivery and content of the Human Relations course and the technical updates offered through the personnel development in-service program in the State of Iowa.

The vocational-technical faculty members surveyed were asked to 1) respond as to whether they felt each competency in the Human Relations course was necessary for teaching, 2) assess the level of attainment of each of the competencies, 3) indicate to what extent they were able to apply each of the competencies in their own classroom situation, and 4) assess the overall effectness of the instructor of the Human Relations course.

The sample for this study was drawn from all post-secondary vocatonal-technical instructional faculty who had taken the Human Relations course in the past six years. A total of 165 survey instruments were mailed to the Vocational-Technical Directors at each community and technical college, with the return of the completed surveys sealed by the instructor in an envelope, which was returned for analysis. One hundred forty-four usable instruments were returned and used in conducting the analysis of the data and reported in Chapter III of this report.

The survey instrument was developed with the input of a state-wide Task Force comprised of representatives from several community colleges, an area education agency, and the State Department of Public Instruction. The survey instrument was field tested with the assistance of the Task Force members.

The data collected by the survey instruments were coded utilizing Statistical Package for Social Science (S.P.S.S.X.). The t-test and Chi-Square tests were conducted to determine the attitude responses of the vocational-technical instructional staff toward the effectiveness of the delivery and content of the Human Relations course and the technical updates.

CHAPTER III. FINDINGS

The results of the analysis of the data collected for this investigation are presented in this chapter. The primary purpose of this study as stated in Chapter I was to determine the effectiveness of the delivery and content of the Human Relations course and the technical updates for post-secondary, full-time preparatory program instructors in the State of Iowa. The questionnaire was completed by 144 instructional staff in a usable manner for use in this study from the fifteen Iowa Area Community Colleges and Area Vocational-Technical Schools in Iowa.

Analysis of the responses to SECTION I.

Assessment of the Content

The respondents were asked three questions about each of the six competencies.

1. They were asked to indicate "How NECESSARY is this competency for teaching?" Response choices were, on a five-point scale, "Very Necessary," "Moderately Necessary," and "Not Necessary."

2. They were asked to indicate "To what extent did you ATTAIN each competency in this course?" Response choices were, on a five-point scale, "Adequately Attained," "Partially Attained," and "Not Attained."

3. They were asked to indicate "To what extent are you able to USE this competency?" Response choices were, on a five-point scale, "Frequently Used," "Rarely Used," and "Never Used."

The competencies are as follows:

1. Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society.
2. Ability to recognize and deal with dehumanizing biases such as sexism, racism, prejudice, and discrimination and become aware of its impact on interpersonal relations.
3. Ability to translate knowledge of human relations into attitudes, skills, and techniques which will result in favorable learning experiences for students.
4. Ability to recognize the ways in which dehumanizing biases may be reflected in instructional materials.
5. Understanding and respect for human diversity and the rights of each individual.
6. Ability to relate effectively to other individuals and various subgroups other than one's own.

For each of the competencies, the respondents were asked to rate, on a five-point scale, the degree of necessity, the level of attainment, and the extent of use in their teaching assignment.

Table 3.1 is a summary of the 144 responses. Figures are reported as percentages, and rounded to whole numbers.

Table 3.2 depicts the percentage of responses overall (all competencies) for the course's NECESSITY and USE, as well as the perceived level of ATTAINMENT. Ratings for each of the competencies, regarding Necessity, ranged from 1, for very necessary, to 5 for not necessary. An approximation for the overall level of Necessity is that about 54% rated Necessity as either a 1 or a 2. Less than 9% rated Necessity as either a 4 or a 5.

About 54% of the respondents rated the level of attainment as either a 1 or a 2. Less than 15% of the respondents rated attainment as either a 4 or a 5. An approximation of the general level of usage of the competencies indicates that only 45% of the respondents rate usage as either a 1 or a 2. About 16% of the respondents rate usage as either a 4 or a 5. In summary, the rating for Necessity, Attainment, and Use, is generally favorable. Clearly, a majority rate the competencies as necessary and that the competencies have been satisfactorily attained. Use of the competencies, however, is rated slightly less favorably.

Some exceptions to the above generalizations should be noted, however. Rating for Necessity of competencies 1 and 4 appear to be less favorable than ratings for the other competencies. Attainment of competency 4 also appears to be rated lower than attainment of the other competencies.

TABLE 3.1

COMPETENCY

	NECESSITY						ATTAINMENT						USE					
	VERY	MODERATE			NOT		ADEQUATE		PARTIAL		NOT		FREQUENT	RARE		NEVER		
	1	2	3	4	5	MEAN	1	2	3	4	5	MEAN	1	2	3	4	5	MEAN
1	21	27	38	12	3	2.5	21	46	25	6	2	2.2	17	31	32	13	7	2.6
2	35	27	28	8	2	2.1	26	39	24	10	1	2.2	24	39	20	14	4	2.3
3	34	40	21	4	1	2.0	21	40	28	8	3	2.3	31	42	19	8	1	2.1
4	18	35	35	10	1	2.4	20	34	31	11	4	2.4	15	33	26	17	8	2.7
5	54	25	16	4	1	1.7	41	36	13	5	6	2.0	54	24	14	7	1	1.8
6	38	38	19	3	2	1.9	28	46	13	8	5	2.1	29	40	21	8	2	2.2

TABLE 3.2

OVERALL RATING OF THE NECESSITY, ATTAINMENT, AND USEFULNESS FOR THE COMPETENCIES OF THE HUMAN RELATIONS COURSE.

RATING (a)		PERCENT
1	VERY NECESSARY	11.9
	ADEQUATELY ATTAINED	8.5
	FREQUENTLY USED	6.3
2	MORE NECESSARY	42.0
	MORE ATTAINED	45.8
	MORE USED	38.7
3	MODERATELY NECESSARY	37.8
	PARTIALLY ATTAINED	31.0
	RARELY USED	38.7
4	LESS NECESSARY	7.7
	LESS ATTAINED	10.6
	LESS USED	14.8
5	NOT NECESSARY	0.7
	NOT ATTAINED	4.2
	NEVER USED	1.4

(a) 1 = Highest.

Finally, use of competencies 1 and 4 appear to be less favorably rated than the other competencies. Further statistical analysis of these variables is recommended to determine why the competencies number one, "Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society" and number four "Ability to recognize the ways in which dehumanizing biases may be reflected in instructional materials", are rated lowest of the six competencies for all three measures--NECESSITY, ATTAINMENT, and USE.

Table 3.3 uses the percentages reported in Table 3.1 to display the competencies with their ranking (1=best) for NEED, ATTAINMENT, and USE.

In order to further determine the course's strengths and weaknesses, an analysis was made of the differences between the degree of NECESSITY: "Very", commpared to ATTAINMENT: "Adequate", and USE: "Frequent". Table 3.4 ranks the competencies in ascending order by the last column "minimum (difference).

This analysis confirms that competency number five "Understanding and respect for human diversity and the rights of each individual" is the strongest of the six.

TABLE 3.3

COMPETENCIES	RANKING* NEED ATTENTION	USE
1. Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society.	4	4
2. Ability to recognize and deal with dehumanizing biases such as sexism, racism, prejudice, and discrimination and become aware of its impact on interpersonal relations.	3	3
3. Ability to translate knowledge of human relations into attitudes, skills, and techniques which will result in favorable learning experiences for students.	3	2
4. Ability to recognize the ways in which dehumanizing biases may be reflected in instructional materials.	4	4
5. Understanding and respect for human diversity and the rights of each individual.	1	1
6. Ability to relate effectively to other individuals and various subgroups other than one's own.	2	2

* Where there are competencies with the same ranking, there is no statistically significant difference.

Note: The highest ranking is 1.

TABLE 3.4

COMPETENCIES	% Adequate Attainment 1 or 2	% Frequent Use 1 or 2	% Very Necessary 1 or 2	% Difference Use & Need
5. Understanding and respect for human diversity and the rights of each individual.	77	79	79	- 2
2. Ability to recognize and deal with dehumanizing biases such as sexism, racism, prejudice, and discrimination and become aware of its impact on interpersonal relations.	65	63	63	+ 2
6. Ability to relate effectively to other individuals and various subgroups other than one's own.	74	69	75	+ 5
4. Ability to recognize the ways in which dehumanizing biases may be reflected in instructional materials.	55	49	54	+ 6
3. Ability to translate knowledge of human relations into attitudes, skills, and techniques which will result in favorable learning experiences for students.	61	77	74	- 16
1. Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society.	66	48	48	+ 18

The most notable difference between ATTAINMENT and USE/NEED is for the following competencies:

1. Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society.
3. Ability to translate knowledge of human relations into attitudes, skills, and techniques which will result in favorable learning experiences for students.

Attainment of competency number one, above, exceeds both Use and Need by a significant amount. Conversely, Attainment of competency number three, above, is far less than the perceived Use and Need. This may indicate a need for less emphasis on number one and more emphasis on number three.

Delivery and Content Section II.

Assessment of Delivery

For the Human Relations course, respondents were asked to respond to fifteen questions about the course's delivery, i.e. to make an Assessment of the Instructor. The following is the five-point scale that was provided with its descriptors:

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

TABLE 3.5

INSTRUCTOR ATTRIBUTES, LISTED IN RANK ORDER BY POSITIVE RESPONSES.

	ATTRIBUTE	% AGREE OR STRONGLY AGREE	NEGATIVE RANKING	NEUTRAL RANKING
9.	Was enthusiastic.	88 %	14	15
5.	Was prepared to teach each lesson.	84 %	15	12
1.	Appeared qualified to teach the course.	83 %	11	14
12.	Varied teaching methods used in this course.	81 %	10	13
7.	Presented material clearly.	79 %	13	10
15.	Used good human relations in dealing with me as an individual.	77 %	12	8
2.	Established objectives and taught toward them.	76 %	7	9
11.	Used class time effectively.	74 %	5	11
13.	Used appropriate teaching methods for this course.	72 %	6	7
6.	Used class time effectively.	71 %	9	6
10.	Evaluated outcomes of the course appropriately.	68 %	8	4
4.	Demonstrated a positive role for me.	66 %	4	5
14.	Taught me the use of competencies in working with my student's human relations.	52 %	2	3
8.	Was concerned with helping me apply the competencies to my own classroom.	49 %	3	2
3.	Attempted to understand my voc-tech teaching field.	43 %	1	1

Table 3.5 lists the attributes in rank order by positive response for all instructors teaching the Human Relations course. Not surprisingly, strong correlations are indicated by the relative ranking of the attributes.

The most positive attributes for all instructors were as follows:

5. "Was prepared to teach each lesson."

9. "Was enthusiastic."

A secondary group that received relatively high ratings were as follows:

1. "Appeared qualified to teach the course."

7. "Presented material clearly."

12. "Varied teaching methods used in this course."

15. "Used good human relations in dealing with me as an individual."

Three of the abritutes were given a ranking of third highest. There was no statistical difference in these rankings. They include the following:

2. "Established objectives and taught toward them."

11. "Used class time effectively."

13. "Used appropriate teaching methods for this course."

The overall assessment of instruction for the Human Relations course is strong, with a range of "positive" ratings from a minimum of 66% to a maximum of 88%.

Generally, as follows, 72% of the respondents either agree or strongly agree that the instructor exhibited the

attributes listed in Section II. Overall rating, on a scale of 1 to 5, with 5 as strongly agree, is 3.8.

Assessment of Delivery

Strongly Agree	32%
Agree	40%
Undecided	18%
Disagree	6%
Strongly Disagree	4%

Some exceptions, however, should be noted. Unusually low responses were recorded for the following attributes:

3. "Attempted to understand my voc-tech teaching field," was rated at only 3.2, significantly less than the overall rating.

8. "Was concerned with helping me apply the competencies to my own classroom," was rated lower than the general average, at 3.3.

Finally, number 14, "Taught me to use the competencies in working with my students' human relations," was rated relatively low, at 3.3, compared with the other attributes.

Table 3.6 was reported by the writers of this study in a comprehensive analysis completed in 1985. Note the similarity in the ranking of the attributes, with number three above indicated by the respondents as being the least positive and the second most negative. This would indicate that the instructors providing the Human Relations course are not different than the vocational-technical teacher educators in their lack of ability to understand the vocational- technical teaching field of the student/respondents.

Table 3.0

INSTRUCTOR ATTRIBUTES — MEASUREMENT/EVALUATION

Attributes listed in rank order by positive[1] responses. Negative & neutral rankings are indicated in their respective columns.

ATTRIBUTES	NEGATIVE[2] RANKING	NEUTRAL[3] RANKING
1. Appeared qualified to teach this course/workshop	13	12
2. Established objectives and taught toward them	11	10
5. Was prepared to teach each lesson	12	5
10. Evaluated outcomes of the course appropriately	5	13
9. Was enthusiastic	10	8
7. Presented material clearly	3	11
8. Was concerned with helping me apply to my own classroom	8	9
13. Used appropriate teaching methods for this course	9	4
12. Varied teaching methods used in this course/workshop	4	7
6. Used classs time efficiently	6	3
11. Used class time effectively	1	6
4. Demonstrated a positive role model for me	7	2
3. Understood my voc—tech teaching field	2	1

[1]Most positive at the top [2]Most negative=1 [3]Most neutral=1

Also of concern is attribute number eight, above, which is ranked fourteenth out of fifteen in this study, and ranked seventh out of thirteen in the 1985 study.

It should be further noted that in this study, there were two additional attributes which were added for analysis:

14. "Taught me to use the competencies in working with my students' human relations."
15. "Used good human relations in dealing with me as an individual."

It is somewhat disconcerting that number fourteen ranked thirteenth out of fifteen attributes.

Report of the Responses to SECTION III.

PROVIDER INFORMATION

The information obtained in this section of the survey instrument was gathered for the purpose of assisting in the determination of the most efficient and effective manner of identifying preferred course scheduling, who should offer the course, etc. This information was very helpful to the writers in making recommendations concerning the delivery of the course Human Relations course.

The respondents were asked to circle the response(s) that best describe their reactions to each statement. The number of responses to each statement are summarized below:

A. Who should determine the schedule of course offerings?	Percentage Responding
1. The State Department of Public Instruction	23%
2. The provider institution	20%
3. Your employer/supervisor	15%
4. Participants needing courses	42%

Seemingly, a needs assessment technique might be implemented by either The State Department of Public Instruction or the provider institutions to allow participants to provide input into the schedule.

B. Indicate how you took the course*

1. Classroom instruction
2. Workshop
3. Evening
4. Weekend
5. Summer
6. During the school year
7. During my work day

* Response to this question was difficult to interpret. Multiple responses were as follows:

(52)	1 Response	36.6%
(24)	2 Responses	16.9
(45)	3 Responses	31.7
(21)	4 Responses	14.8

Only 3 responses would appropriately describe how each participant has taken the course. One response would either indicate classroom or workshop; a second would indicate

either evening, weekend, or workday; and a third response would be either summer, school year, or other.

Of the 45 respondents who responded with three answers, 89% took the course through classroom instruction, 80% took the course in the evening, and 78% took the course during the school year. Of the total sample, however, 81 responses indicated classroom instruction (55.6%). From this group, 14.8% did not list a second selection. 17.3% indicated both classroom and workshop. 50.6% indicated both classroom and evening. Only 7.4% indicated both classroom and weekend. 27% did not indicate a third selection.

C. Indicate the institution/agency offering the course *

* About 12% of the respondents did not indicate a specific provider. Of the respondents who did answer the question, 27 specific providers were cited. The University of Northern Iowa was the most frequently listed, at 18.1%.

In spite of the directions given to the respondent to "give the name of the institutionj/agency providing the Human Relations course", 46 out of 127 who answered the question, or 36%, responded by indicating the actual location of the course. Of the respondents, 32 (25.2%) indicated they took the course from a Regents institution. Twenty-five (19.8%) took the course from a private institution. Twenty-four (19%) were from the area education agencies.

D. Describe how you learned of the course offering.

1.	Personnel office	35%
2.	Faculty/staff members	28%
3.	The Iowa State DPI	9%
4.	Your Supervisor	13%
5.	Grapevine	6%
6.	Direct mail from provider	16%
7.	Other	4%

E. Ideally when should the Human Relations course be required?

1.	Before teaching begins	39%
2.	During the first six years of teaching	38%
3.	As the last course before recertification	4%
4.	Other	19%

Contained within the "Other" category indicated above, several written comments were provided by the respondents, which were generally negative. A typical response was "never".

F. To what extent did your teaching schedule interfere with your ability to complete this course?

1.	Did not affect at all	59%
2.	Somewhat affected	28%
3.	Excessively affected	11%
4.	Other	1%

G. Should there be a separate course for elementary/ secondary faculty and community college faculty?

1. Yes 57%

2. No 43%

H. Should you have been given the opportunity to have tested out of this course?

1. Yes 55%

2. No 45%

I. If yes, what kind of test should have been used?*

* The majority who responded positively also indicated that a written/interview should have been used. Some mentioned that oral exams could be used, while others said that true and false tests could have been used.

J. Who should be authorized to offer this course?

1. Regents institutions (U of I, UNI, ISU)
2. Private colleges and universities
3. Area education agencies
4. Area community colleges
5. Private contractors

In many cases, multiple choices were stated, as follows:

1 Response	48.9%
2 Responses	14.6
3 Responses	6.6
4 Responses	15.3
5 Responses	14.6

Of those respondents who indicated a unique preference, the majority, 52%, prefer either area agencies or colleges. 30% state that only the regents institutions should be authorized.

Report of Responses to SECTION IV.

RESPONDENT INFORMATION

The data obtained from this section of the survey instrument was of assistance in identifying information by the various demographic categories. This information was kept confidential in the reporting. A control number was used on each survey instrument for the purpose of identifying non-respondents to the questionnaire for follow-up purposes. No reporting was made with reference to any individual respondent.

The respondents were asked to circle only one number for each of the categories provided. The percentages of responses for each category are reported as follows:

A. Total years of teaching experience at current institution	Percentage Responding
1. 1 - 2 years	10%
2. 3 - 4 years	29%
3. 5 - 6 years	22%
4. 7 - 8 years	22%
5. 9 or more years	19%

B. Total years of prior teaching experience

1. 1 - 2 years	33%
2. 3 - 4 years	13%
3. 5 - 6 years	7%
4. 7 - 8 years	5%
5. 9 or more years	7%
6. No Prior Teaching Experience	35%

C. Total years of work experience in business and industry

1. 1 - 3 years	9%
2. 4 - 6 years	15%
3. 7 - 9 years	13%
4. 10 - 12 years	17%
5. 13 or more years	47%

It is noteworthy that 64% of the respondents had 10 or more years of total years of work experience in business and industry.

D. Highest educational level attained

1. High School Diploma	21%
2. Two years post-secondary no degree	14%
3. Two years of post-secondary with degree	9%
4. Bachelor's degree	44%
5. Master's degree	9%
6. Specialist's degree	2%
7. Doctorate degree	1%

E. Is there a formal staff development program at your institution?

1. Yes	75%
2. No	25%

F. Did the completion of the Human Relations course result in a salary increase or advancement?

1. Yes	10%
2. No	90%

G. Please indicate your institution:

1. Area I	7%
2. Area II	1%
3. Area III	5%
4. Area IV	9%
5. Area V	6%
6. Area VI	3%
7. Area VII	11%

G. Please indicate your institution: (Continued)

8. Area IX	3%
9. Area X	13%
10. Area XI	10%
11. Area XII	7%
12. Area XIII	8%
13. Area XIV	2%
14. Area XV	9%
15. Area XVI	6%

H. Please indicate your field of teaching:

1.	Agriculture	8%
2.	Marketing and Distributive	2%
3.	Business/Office Education	7%
4.	Home Economics	1%
5.	Health Occupations	31%
6.	Trade and Industrial	37%
7.	Technical	8%
8.	Other	6%

It is interesting to note that 31% of the respondents were from the Health Occupations field, while 37% were from the Trade and Industrial field. In the study that was completed in 1985 by the researchers, it was found that 30% of the respondents were from the Health Occupations fields, and 43% of the respondents were from the Trade and Industrial field.

SECTION V. TECHNICAL UPDATES

The respondents were asked to complete Section V. Technical Updates in which they were to indicate their ranking of the types of technical update options in order of the appeal they have, with "1" being their first choice, etc. In addition, the respondents were asked to check each item which they have participated in as a part of their technical update activities. Lastly, the respondents were to rate the overall effectiveness of those activities in which they had participated in by using a five-point rating

scale, with very effective being "1", moderately effective being "3", and not effective being "5".

Twenty-eight percent of the responses were invalid. An additional 5% of the responses were incomplete. The responses which were complete, in which the ranking of each of the 11 options occured are presented below. In terms of appeal, based on statistical tests of all possible combinations, no clearly dominant choice is ranked as number one. As determined by the statistical tests, rankings are grouped as follows:

APPEAL	Participation
First Choice	Percent*
A. Workshop/courses on your campus taught by Business/Industry	49%
B. Workshop/courses on your campus taugth by College/University	61%
C. Workshop/courses off campus taught by Business/Industry	54%
Second Choice	
D. Workshop/courss off campus taught by a College/University	67%
E. Work experience/internship at a Business Industry facility	26%
Third Choice	
F. Periodic (e.g. annual) conference attended by your peers	54%

G. Part-time employment (conducting workshops, consulting, etc.) 28%

Fourth Choice

H. Exchanging places with professionals in your field 8%

I. Communication with your Advisory Committee 74%

Fifth Choice

J. Reading Journals 81%

Sixth Choice

K. Other Activities 9%

*These percentages are reported to indicate the participation of the respondents in each of the 11 activities. An unusually low percent of the respondents have participated in work experience/internship, part-time employment, or exchanging places with professionals in their fields.

Table 3.7 below, depicts the responses which rate the effectiveness of the technical update options in the order of their appeal. On a scale of 1 to 5, with one representing very effective, the percentage of effectiveness for each technical update option are presented to the right.

TABLE 3.7

	Technical Update Options	Ratings of Effectiveness 1	2	3	4	5
A.	Workshop/courses on your campus taught by Business/Industry (75 valid responses)	43%	29%	23%	4%	1%
B.	Workshop/courses on your campus taugth by College/University (93 valid responses)	26%	33%	31%	9%	1%
C.	Workshop/courses off campus taught by Business/Industry (82 valid responses)	55%	31%	6%	7%	1%
D.	Workshop/courss off campus taught by a College/University (99 valid responsesj)	31%	26%	30%	11%	1%
E.	Work experience/internship at a Business Industry facility (43 valid responses)	47%	44%	5%	2%	2%
F.	Periodic (e.g. annual) conference attended by your peers (84 valid responses)	26%	31%	27%	8%	7%
G.	Part-time employment (conducting workshops, consulting, etc.) (44 valid responses)	43%	32%	16%	5%	4%
H.	Exchanging places with professionals in your field (20 valid responses)	25%	35%	15%	20%	5%
I.	Communication with your Advisory Committee (114 valid responses)	21%	32%	32%	12%	3%
J.	Reading Journals (120 valid responses)	37%	37%	20%	5%	1%
K.	Other Activities (16 valid responses)	31%	38%	31%	0	0

Table 3.8 below, compares the mean of the responses which rate the effectiveness of the technical update options with the mean to the responses which rated their appeal. The technical update options are listed in the same sequence of "appeal" as they are in Table 3.7, above.

TABLE 3.8

	Technical Update Options	Means of Appeal Responses & "Group" Rank		Means of Effectiveness Responses and Resulting "Group" Rank	
A.	Workshop/courses on your campus taught by Business/Industry (75 valid responses)	4.08	1	1.92	2
B.	Workshop/courses on your campus taught by College/University (93 valid responses)	4.10	1	2.26	3
C.	Workshop/courses off campus taught by Business/Industry (82 valid responses)	4.32	1	1.70	1
D.	Workshop/courss off campus taught by a College/University (99 valid responsesj)	4.92	2	2.24	3
E.	Work experience/internship at a Business Industry facility (43 valid responses)	4.42	2	1.70	1
F.	Periodic (e.g. annual) conference attended by your peers (84 valid responses)	5.84	3	2.39	4
G.	Part-time employment (conducting workshops, consulting, etc.) (44 valid responses)	6.18	3	1.95	2
H.	Exchanging places with professionals in your field (20 valid responses)	6.90	4	2.45	4
I.	Communication with your Advisory Committee (114 valid responses)	6.44	4	2.46	4
J.	Reading Journals (120 valid responses)	6.56	5	1.96	2
K.	Other Activities (16 valid responses)	10.53	-	2.0	-

Analysis of Table 3.8, indicates that there are three types of technical updates that rank higher in effectiveness than they do in appeal. Conversely, four rank higher in appeal than they do in effectiveness. More comments will be made in the summary.

Workshops/ courses taught on campus by either Business/Industry or College/University are generally rated as effective, with 72% and 59%, respectively, rated as either a 1 or a 2. Courses taught off-campus by Business/Industry are rated more effective than courses taught off-campus by a college/university, with 85% compared to 58% rating these as either a 1 or a 2. 91% rate work experience as either a 1 or a 2.

Fifty-seven percent rate periodic conferences a 1 or a 2 in terms of effectiveness. Sixty percent of the respondents who participated in exchanging places with professionals rated this option as effective. Only 53% of the respondents rated communication with advisory committees as a 1 or a 2, in terms of effectiveness. Seventy-four percent of the respondents rate reading journals as effective.

SECTION V.B. RESPONDENT INFORMATION CONCERNING TECHNICAL UPDATES

Each of the respondents was asked to provide additional information concerning technical updates. The percentage of respondents indicating answers to each of the questions are provided.

Questions to Section V.B.

		Percentages
1.	What percent do you feel of what you teach is obsolete within 4 years?	
	a. Between 76% and 100%	4%
	b. Between 51% and 75%	15%
	c. Between 26% and 50%	30%
	d. Less than 25%	51%

A majority of the respondents (51%) state that 25% or less of what is taught is obsolete within four years.

2.	Should Technical Updating in your field be required?	
	a. Yes	90%
	b. No	4%
	c. Don't know	6%

Ninety percent of the respondents believe that technical updating should be required.

3.	How many Technical Update activities have you participated in during your total years of teaching? (Please refer to page 5, Section V. for examples of activities).	
	a. None	5%
	b. 1 - 3	18%
	c. 4 - 6	25%
	d. 7 - 9	10%
	e. 10 - 12	13%
	f. 13 or more	29%

Twenty-three percent of the respondents have participated in less than four technical update activites during their total teaching experience. An additional 25% have participated in up to 6 technical updates. Fifty-two percent have participated in more than 6 technical updates.

4. What percent of the Technical Update activities you participated in were paid as "released time"?

a. None	25%
b. Less than 25%	28%
c. Between 26% and 50%	14%
d. Between 51% and 75%	10%
e. Between 76% and 100%	23%

Fifty-three percent of the participants stated that activities were at least 25% paid release time. Only 23% of the respondents stated that paid release time was greater than 75%.

5. If your answer to item #2 is "yes", how frequently should it be required?

a. Every year	54%
b. Every 2 years	26%
d. Every 3 years	11%
e. Every 4 years	3%
f. Every 5 years	7%

Eighty percent of the respondents state that technical updates should be required at least once every two years. An additional 26% state that updates should be required every 2 years. A total of 15 respondents did not indicate a "yes" to

"should technical updates be required"and, of course, there were no responses in the above question from them.

6. Given the frequency you have indicated above, how many contact hours of Technical Updating should be required?

a. None	5%
b. 1 to 10	36%
c. 11 to 20	29%
d. 21 to 30	13%
e. more than 30	17%

7. In a typical year, which figure best represents the total number of days you invest in Technical Updates?

a. None	5%
b. 1 - 5	33%
c. 6 - 10	23%
d. 11 - 15	12%
e. 16 - 20	13%
f. 21 or more	15%

Fifty-one percent of the respondents stated that if they had an additional 5 paid non-student contact days that they would use them in technical updates. It should be noted that the respondents are indicating the part or full days rather than a full eight-hour day when compared to the responses from question number seven above.

8. In order for you to participate in Technical Updates, how essential is it that you have paid release time from the classroom?

a.	Absolutely essential	32%
b.	Strongly influences my decision	36%
c.	Somewhat influences my decision	25%
d.	I believe in using my own time for Technical Updating	8%

Sixty-eight percent of the respondents state that paid release time is either essential or has a strong influence in the decision to participate in technical updates. It should be noted that 12 respondents failed to answer this questions, due in part to a "no" response to question number two above.

9. If you had five additional paid non-student contact days per year, how would you use them?

a.	Research	16%
b.	Rest and Relaxation	7%
c.	Technical Update activities	51%
d.	Organize my office	8%
e.	Other (Describe)	17%

Fifty-one percent of the respondents indicated that they would spend their time on technical updating activities.

10. How much would you be willing to spend out of your own pocket to be able to attend some type of Technical Update activity?

a. Nothing	17%
b. Up to $50	40%
c. Up to $100	23%
d. Up to $250	15%
e. Up to $500	5%

Only 40% would be willing to spend up to $50. However, 20% would spend more than $100. Seventeen percent of the respondents were not willing to spend any personal funds to attend technical updates.

11. Who should be primarily responsible for initiating the Technical Update activity?

a. Faculty Member	47%
b. Local Administrator	16%
c. Vocational-Technical Advisory Committee	12%
d. A workshop/course provider	14%
e. Iowa Department of Public Instruction	11%

Forty-seven percent of the respondents state that a faculty member should be primarily responsible for initiating the technical update activity.

12. How much input do you have in determining your Technical Update program activities?

a.	My program is totally up to me	37%
b.	My Dean or Director and I usually determine together	36%
c.	I'd like to have more input	13%
d.	Someone else decides what I need	14%

Seventy-three percent of the respondents are either personally responsible or jointly responsible with a Dean for determining technical update program activities.

13. What is the greatest barrier to acquiring Technical Updating?

a.	Lack of budget	57%
b.	Lack of qualified substitute teachers	10%
c.	Lack of internal staff to "cover" classes	11%
d.	Approval required too far in advance ("red tape")	7%
e.	Internal politics	5%
f.	Other	11%

Fifty-seven percent of the respondents cite lack of budget as the greatest barrier to acquiring technical updating.

14. Do you feel that you have equal access to Technical Update activities?

a. Yes	32%
b. No	40%
c. Don't know	28%

Sixty-eight percent indicated that they feel they do not have equal access to technical update activities or that they don't know if they have access.

SECTION V.C. ORGANIZATONAL INFORMATION

Questions to SECTION V.C.

In the last section of the survey instrument, the respondents were asked to answer questions pertaining to their own educational institution relative to technical updating. The individual questions are presented below with comments.

1. Are you aware of a procedure/process in your institution that enables you to receive Teaching Certificate Renewal Credit for the "approved" Technical Update activites in whch you participate?

a. yes	59%
b. no	30%
c. don't know	12%

Only 59% of the respondents are aware of a process for receiving teaching certificate renewal credit for participation in approved technical updates.

2. If your answer to item #1 above is "yes," what is your opinion of how your institution's procedure is working?

a. It works very well	14%
b. It works "ok"	60%
c. It doesn't work very well	19%
d. It doesn't work at all	
e. No opinion--haven't used it	9%

Of the 83 "yes" responses to question number one above, 81 responded to question number two above. Seventy-four percent of the respondents feel that the institutional procedures works either very well or "ok".

3. Does your institution have a "committee" which locally approves and "funds" your Technical Update requests/activities?

a. yes	27%
b. no	25%
c. don't know	48%

Forty-eight percent of the respondents reported that they did not know of a committee which is locally responsible for approving and funding technical update requests and activities.

4. If the Technical Update activity is "paid for" by your institution, would you recieve credit on your institutions salary schedule?

a. yes	8%
b. no	62%
c. don't know	31%

Only 8% of those respondents whose technical update is paid for by the institution would also receive credit on the institution's salary schedule.

5. If the Technical Update activity is "paid for" by YOU, would you receive credit on your institutions salary schedule?

a. yes	34%
b. no	33%
c. don't know	34%

Thirty-four percent would receive credit on the salary schedule if the technical update is paid for personally.

6. Does your institution use some sort of objective system (e.g. a "rotational" program) for providing you an opportunity to participate in Technical Update activities?

a. yes	12%
b. no	49%
c. don't know	39%

Only 12% of the respondents state that their institution has an objective system for providing opportunity to participate in technical update activities.

STATISTICAL ANALYSIS AND REPORT OF DATA

The statistical analysis of the null hypotheses is contained in this portion of the study. of the 32 hypotheses were rejected at either the .05* or the .01** level of significance. Each hypothesis is referenced to the appropriate section of the survey instrument (see Appendix A).

Initially, each of the 32 hypotheses were tested using the Chi-Square test for independence. Chi-Square determines only whether or not a relationship exists and does not lead to any direct interpretation on the strength of any relationship.

Hypothesis 1: There is no significant difference between the assessment of the instructor of the Human Relations course and which agency/institution provided the instruction.

The statistical analysis of this hypothesis did not result in any significant findings when the Chi-Square tests were performed. General instructor assessment and the provider appeared to be independent. As a result of the lack of findings related to this hypothesis, it was necessary to fail to reject the null hypothesis.

Hypothesis 2: There is no significant difference between the assessment of the instructor of the Human Relations course and how the course was taken.

The statistical analysis of this hypothesis did not result in any significant findings when the Analysis of Variance and Chi-Square tests were performed. Instructor assessment and the first response on how the course was taken are independent. Extensive statistical testing would be necessary to test all of the many possible combinations of multiple responses to how the course was taken. As a result of the lack of findings related to this hypothesis, it was necessary to fail to reject the null hypothesis.

Hypothesis 3: There is no significant difference in the assessment of the instructor of the Human Relations course and the degree of interference caused to the faculty member's work schedule.

The findings from the Chi- Square tests were performed for this hypothesis for the Human Relations course. When the statistical analysis was conducted for the course compared to the level of inter- ference, there were no two groups that were significantly different. The degree of interference with work schedules is independent of the instructor assessment. As a result, it was necessary to fail to reject the null hypothesis.

Hypothesis 4: There is no significant difference in the responses of faculty as to who should determine the schedule of classes and the institution at which they teach.

When comparing the responses from the faculty members of the fifteen community collegs as to who they indicated should determine the schedule of classes it was found that there was no significant difference in the responses. Course determination is independent of the institution at which the participant teaches. As a result, it was necessary to fail to reject the null hypothesis.

Hypothesis 5: There is no significant difference between the providers of the Human Relations course and the degree of attainment of the competencies by the respondents.

The statistical analysis of this hypothesis did not result in any significant findings when the Chi-Square tests were performed. The two variables were independent of one another, as a result, the null hypothesis could not be rejected.

Hypothesis 6: There is no significant difference between the level of attainment of the competencies and the extent to which the faculty member is able to use the competency.

These two variables were found to be dependent upon one another. A total of 102 individuals rated Attainment at a 1 or 2 and Usefulness at 1, 2, or 3. These data are presented in Table 3.9. The level of significance was beyond the .001** (highly significant) level and thus the null hypothesis was rejected.

Hypothesis 7: There is no significant difference between the attainment of the competencies and the perceived necessity for each competency in the teaching assignment.

When conducting the analysis of this hypothesis, it was found that 90 respondents who rated Attainment a 1 or 2, also rated Necesity a 1 or 2. These data are reported in Table 3.10. The level of significance was beyond the .001** (highly significant) level and thus the null hypothesis was rejected.

Table 3.9 Cross-Tabulation of Attainment by Usefulness for the Human Relations Course

Level of Attainment

Level of Usefulness	Count / Row Pct / Col Pct	1.00	2.00	3.00	4.00	5.00	Row Total
6 TO 10	1.00	22	15	4			41
		53.7	36.6	9.8			28.9
		56.4	25.4	14.3			
11 TO 15	2.00	13	36	12	3		64
		20.3	56.3	18.8	4.7		45.1
		33.3	61.0	42.9	20.0		
16 TO 20	3.00	2	6	9	7		24
		8.3	25.0	37.5	29.2		16.9
		5.1	10.2	32.1	46.7		
21 TO 25	4.00	1	1	2	3	1	8
		12.5	12.5	25.0	37.5	12.5	5.6
		2.6	1.7	7.1	20.0	100.0	
26 TO 30	5.00	1	1	1	2		5
		20.0	20.0	20.0	40.0		3.5
		2.6	1.7	3.6	13.3		
	Column Total	39	59	28	15	1	142
		27.5	41.5	19.7	10.6	.7	100.0

Chi-Square	D.F.	Significance	Min E.F.
69.41246	16	.0000	.035

Number of Missing Observations = 2

Table 3.10 Cross-Tabulation of Attainment by Necessity for the Human Relations Course

Level of Attainment

Level of Necessity	Count / Row Pct / Col Pct	1.00	2.00	3.00	4.00	5.00	Row Total
6 TO 10	1.00	27	13	2			42
		64.3	31.0	4.8			29.4
		56.3	22.0	6.7			
11 TO 15	2.00	16	34	14			64
		25.0	53.1	21.9			44.8
		33.3	57.6	46.7			
16 TO 20	3.00	2	8	12	2		24
		8.3	33.3	50.0	8.3		16.8
		4.2	13.6	40.0	40.0		
21 TO 25	4.00	2	3	1	2		8
		25.0	37.5	12.5	25.0		5.6
		4.2	5.1	3.3	40.0		
26 TO 30	5.00	1	1	1	1	1	5
		20.0	20.0	20.0	20.0	20.0	3.5
		2.1	1.7	3.3	20.0	100.0	
	Column Total	48	59	30	5	1	143
		33.6	41.3	21.0	3.5	.7	100.0

Chi-Square	D.F.	Significance	Min E.F.
85.00209	16	.0000	.035

Number of Missing Observations = 1

Hypothesis 8: There is no significant difference between the levels of education of the faculty member and their assessment of the instructor providing the Human Relations course.

These two variables were found to be independent of one another, thus the null hypothesis could not be rejected.

Hypothesis 9: There is no significant difference between when the Human Relations course should be required and the institution at which the respondent taught.

The statistical analysis of this hypothesis did not result in any significant findings when the Chi-Square tests were performed. The two variables were independent of one another, as a result, the null hypothesis could not be rejected.

Hypothesis 10: There is no significant difference between the degree of schedule interference and the institution at which the faculty member taught.

Eighty-three (58%) of the respondents indicated that their teaching schedule did not interfere with their ability to complete the Human Relations course. An additional 40 (28%) of the respondents, stated that their teaching schedules "somewhat affected" their ability to complete the course. Therefore, only 11% of the respondents indicated

that their teaching schedules "excessively affected" their ability to complete the course. These data are presented in Table 3.11. The level of significance was 0.0096**, and thus the null hypothesis was rejected.

When reviewing the data by area school it was found that for Area VII, 12 of 16 respondents said that their schedules did not interfere with their ability to complete the Human Relations course. For Area XIII, 11 of 12 respondents indicated no interference, while for Area XVI 5 of 8 and for Area X 15 of 19 respondents indicated the same. Conversely, for Area III, all 5 respondents said that their teaching schedules somewhat or excessively affected and likewise for Area IV, 8 of 13 indicated somewhat or exessively affected their ability to complete the course. Finally, for Area IX, 3 of 4 respondents said that their teaching schedules somewhat affected their ability to complete the Human Relations course.

Hypothesis 11: There is no significant difference between who should be authorized to offer the Human Relations course and the institution at which the faculty member taught.

The statistical analysis of this hypothesis did not result in any significant findings. The two variables were independent of one another, as result, the null hypothesis could not be rejected.

Table 3.11 Cross-Tabulation by the Level of Interference with the Teaching Schedule and the Area School

Level of Interference

Area School Where Respondent Teaches

Count / Row Pct / Col Pct	NO RESPONSE 0	NO EFFECT 1	SOME EFFECT 2	EXCESSIVE 3	OTHER 4	Row Total
0			1			1
			100.0			.7
			2.5			
1		6	2	2		10
AREA I		60.0	20.0	20.0		6.9
		7.2	5.0	12.5		
2		1				1
AREA II		100.0				.7
		1.2				
3	2		3	2		7
AREA III	28.6		42.9	28.6		4.9
	66.7		7.5	12.5		
4		5	7	1		13
AREA IV		38.5	53.8	7.7		9.0
		6.0	17.5	6.3		
5		4	4			8
AREA V		50.0	50.0			5.6
		4.8	10.0			
6		2	1	2		5
AREA VI		40.0	20.0	40.0		3.5
		2.4	2.5	12.5		
7	1	12	3			16
AREA VII	6.3	75.0	18.8			11.1
	33.3	14.5	7.5			
9		1	3			4
AREA IX		25.0	75.0			2.8
		1.2	7.5			
10		15	2	2		19
AREA X		78.9	10.5	10.5		13.2
		18.1	5.0	12.5		
11		7	3	2	2	14
AREA XI		50.0	21.4	14.3	14.3	9.7
		8.4	7.5	12.5	100.0	
12		5	4	1		10
AREA XII		50.0	40.0	10.0		6.9
		6.0	10.0	6.3		
Column Total	3	83	40	16	2	144
	2.1	57.6	27.8	11.1	1.4	100.0

(Continued)

Table 3.11 Cross-Tabulation by the Level of Interference with the Teaching Schedule and the Area School

(Continued)

Level of Interference

Area School Where Respondent Teaches

Count / Row Pct / Col Pct	NO RESPONSE 0	NO EFFECT 1	SOME EFFECT 2	EXCESSIVE 3	OTHER 4	Row Total
AREA XIII		11 91.7 13.3		1 8.3 6.3		12 8.3
AREA XIV		2 66.7 2.4	1 33.3 2.5			3 2.1
AREA XV		7 53.8 8.4	5 38.5 12.5	1 7.7 6.3		13 9.0
AREA XVI		5 62.5 6.0	1 12.5 2.5	2 25.0 12.5		8 5.6
Column Total	3 2.1	83 57.6	40 27.8	16 11.1	2 1.4	144 100.0

Chi-Square	D.F.	Significance	Min E.F.
88.57815	60	.0096	.014

Number of Missing Observations = 0

Hypothesis 12: There is no significant difference between whether there should be a separate course for elementary/secondary faculty and community college faculty and the institution at which the faculty member taught.

These two variables were found to be independent of one another, thus the null hypothesis could not be rejected.

Hypothesis 13: There is no significant difference between the teaching field of the faculty member and who should determine the schedule of course offerings.

The statistical analysis of this hypothesis did not result in any significant findings. The two variables were independent of one another, as a result, the null hypothesis could not be rejected.

Hypothesis 14: There is no significant difference between whether the respondents should have been given the opportunity to have tested out of the Human Relations course and their educational level.

Table 3.12 indicates the analysis of responses to the question "Should you have been given the opportunity to have tested out of the course?" Out of the 77 respondents (54%) who responded "yes", 50 (65%) had a B.A. degree or greater. Of the 62 (43%) who responded "no", 34 (55%) had less than a B.A. degree. Generally, the higher the level of education,

Table 3.12 Cross-Tabulation by the Educational Level of the Respondent and Whether they felt they should have been given the opportunity to Test-Out of the Human Relations course

Count / Row Pct / Col Pct	NO RESPONSE 0	YES 1	NO 2	Row Total
1 HIGHSCHOOL	1 3.3 20.0	11 36.7 14.3	18 60.0 29.0	30 20.8
2 2 YEARS POST SEC	1 5.0 20.0	9 45.0 11.7	10 50.0 16.1	20 13.9
3 2 YEAR DEGREE		7 53.8 9.1	6 46.2 9.7	13 9.0
4 BA DEGREE	1 1.6 20.0	38 59.4 49.4	25 39.1 40.3	64 44.4
5 MASTERS DEGREE	1 7.7 20.0	11 84.6 14.3	1 7.7 1.6	13 9.0
6 SPECIALIST DEGRE	1 33.3 20.0	1 33.3 1.3	1 33.3 1.6	3 2.1
7 DOCTORATE DEGREE			1 100.0 1.6	1 .7
Column Total	5 3.5	77 53.5	62 43.1	144 100.0

Chi-Square	D.F.	Significance	Min E.F.
22.14142	12	.0360	.035

Number of Missing Observations = 0

the greater the tendency to feel they should be given the opportunity to have tested out of the Human Relations course. The significance level of was .036*, and thus the null hypothesis was rejected.

Hypothesis 15: There is no significant difference between the teaching field of the faculty member and when they felt the Human Relations course should be required.

The statistical analysis of this hypothesis did not result in any significant findings when the Chi-Square tests were performed. The two variables were independent of one another, as a result, the null hypothesis could not be rejected.

Hypothesis 16: There is no significant difference between the teaching field of the respondent and the extent to which their teaching schedule interferred with their ability to complete the Human Relations course.

These two variables were found to be independent of one another, as a result the null hypothesis could not be rejected.

Hypothesis 17: There is no significant difference between the field of teaching of the faculty member and who should be authorized to offer the Human Relations course.

These two variables were found to be independent of one another, as a result the null hypothesis could not be rejected.

Hypothesis 18: There is no significant difference between the total years of teaching experience at the current institution and who should be authorized to offer the Human Relations course.

These two variables were found to be independent of one another, as a result the null hypothesis could not be rejected.

Hypothesis 19: There is no significant difference between the total years of prior teaching experience and who should be authorized to offer the Human Relations course.

These two variables were found to be independent of one another, as a result the null hypothesis could not be rejected.

Hypothesis 20: There is no significant difference between the total years of working experience and who should be authorized to offer the Human Relations course.

These two variables were found to be independent of one another, as a result the null hypothesis could not be rejected.

Hypothesis 21: There is no significant difference between the institution at which the faculty member taught and whether there is a formal staff development program at their institution.

Table 3.13 indicates the percentage responses by area school faculty to the question of whether their institution has a formal staff development program. Eight schools (Areas I, II, III, IV, IX, X, XIII, and XIV) had a response rate of at least 80 percent of the faculty indicating "yes". Area V, VI, VII, XI, XII, XV, and XVI had responses rates for "yes" below that percent, with many schools approaching a 50-50 split between "yes" and "no".

The statistical significance was found to be .0044**, thus the null hypothesis was rejected.

TABLE 3.13 Formal Staff Development Programs

Area School	Percent Yes	Percent No
Area I	80%	20%
Area II	100%	0%
Area III	100%	0%
Area IV	100%	0%
Area V	50%	50%
Area VI	60%	40%
Area VII	63%	37%
Area IX	100%	0%
Area X	90%	10%
Area XI	54%	46%
Area XII	70%	30%
Area XIII	92%	8%
Area XIV	100%	0%
Area XV	77%	23%
Area XVI	25%	75%

Hypothesis 22: There is no significant difference between the ranking of the types of technical updates and the effectiveness of the activities.

In order to conduct the statistical analysis of this hypothesis, it was necessary to complete numerous calculations in which each of the types of technical updates were cross-tabulated with the respondents' feedback on the effectiveness of each of the activities. Four of the eleven technical update activities were found to be dependent of the evaluation of effectiveness, while the remaining seven of the eleven were found to be independent. Table 3.14 reports the technical update activity to the left, with the Chi-Square score, the significance level and an indication as to whether the hypothesis is dependent or independent for that sub-grouping of the statement. The null hypothesis was rejected for four of the sub-groupings.

It is interesting to note that three of the cross-tabulations were highly significant. These included workshops and courses on campus which are provided by business and industry, workshops and courses off campus provided by business and industry, and communication with advisory committee members. The remaining significant finding was workshops and courses provided on campus by colleges and universities. Of the remaining technical update activities, two were found to be near the .05* level of significance; workshops and courses off campus profided by colleges and universities, and periodic conferences.

TABLE 3.14 Ranking of Technical Updates by Effectiveness

Technical Update	Chi-Square	Significance	Dependent/ Independent
a. Workshop/courses On campus (Business & Industry)	45.82310	.003**	Dependent
b. Workshop/courses On campus (College/University)	36.82368	.0456*	Dependent
c. Workshop/courses Off campus (Business & Industry	55.29866	.0003**	Dependent
d.. Workshop/cources Off campus (College/University)	42.64131	.0630	Independent
e. Work experience Business & Industry	9.99706	.7624	Independent
Periodic Conference	64.84336	.0680	Independent
g. Part-time employment	38.40833	.2018	Independent
h. Exchanging places with professionals	31.23611	.3067	Independent
i. Communication with Advisory Committee	72.74451	.0012**	Dependent
j. Reading journals	46.08614	.1210	Independent
k. Other activities	10.82000	.3717	Independent

Hypothesis 23: There is no significant difference between the ranking of the types of technical updates and the total years of teaching experience of the faculty member at their present institution.

Only one variable was found to be dependent of the eleven variables that were compared to the rankings of the types of technical updates with the total year of teaching experience at their present institution. Variable (e.), when compared to total year of teaching experience at the present institution was found to be dependent, with a significance level of .0464*, thus the null hypothesis was rejected for variable (e.) "Work experience/ internship at a business/industry facility". Table 3.15 reports the first three technical updates when compared to total years of teaching experience at present institution, up to 5 - 6 years.

Hypothesis 24: There is no significant difference between the ranking of the types of technical updates and the total years of work experience in business and industry.

There was no significant difference between these variables, and they were found to be independent of one another, thus the null hypothesis could not be rejected.

TABLE 3.15 Ranking of Technical Updates by Total Years Years of Teaching Experience at Present Institution

Technical Update Activities	1 - 2 Years	3 - 4 Years	5 - 6 Years
a. Workshop/courses On campus (Business & Industry)	8.3%	0%	0%
b. Workshop/courses On campus (College/University)	7.1%	14.3%	35.7%
c. Workshop/courses Off campus (Business & Industry	15.4%	23.1%	42.9%

Hypothesis 25: There is no significant difference between the ranking of the types of technical updates and the educational level of the faculty member.

The relationship between these two variables was found to be dependent on two of the variables: 1) (d.) "Workshop/courses off campus taught by a College or University and 2) (i.) Communication with your advisory committee", at the .0022** and .0258* levels of significance respectively. Thus, the null hypothesis was rejected for variables (d.) and (i.). Tables 3.16 and 3.17 depict these data. In Table 3.16, there were only 29 missing observations, while in Table 3.17, there were only 27 missing observations.

Hypothesis 26: There is no signficant difference between the ranking of the types of technical updates and which institution the faculty member teaches.

In each case, where the ranking of the various types of technical update were cross-tabulated with the institution at which the faculty members teach, there were no dependent variables, thus the null hypothesis could not rejected.

Table 3.16 Ranking of the Technical Update and the Educational Level of the Respondents

Technical Update (d.)

Count / Row Pct / Col Pct	HIGHSCHOOL 1	2 YEARS POST SEC 2	2 YEAR DEGREE 3	BA DEGREE 4	MASTERS DEGREE 5	SPECIALIST DEGREE 6	Row Total
1	1			10	1		12
	8.3			83.3	8.3		10.4
	4.5			19.2	9.1		
2	1	2	5	6			14
	7.1	14.3	35.7	42.9			12.2
	4.5	11.8	45.5	11.5			
3	2	3		7	1		13
	15.4	23.1		53.8	7.7		11.3
	9.1	17.6		13.5	9.1		
4	1	2	1	7	1		12
	8.3	16.7	8.3	58.3	8.3		10.4
	4.5	11.8	9.1	13.5	9.1		
5	3	4	1	9	1		18
	16.7	22.2	5.6	50.0	5.6		15.7
	13.6	23.5	9.1	17.3	9.1		
6	4	1	1	7	2		15
	26.7	6.7	6.7	46.7	13.3		13.0
	18.2	5.9	9.1	13.5	18.2		
7	4	1		3	2	1	11
	36.4	9.1		27.3	18.2	9.1	9.6
	18.2	5.9		5.8	18.2	50.0	
8	3	1			2		6
	50.0	16.7			33.3		5.2
	13.6	5.9			18.2		
9	3	1	1	3			8
	37.5	12.5	12.5	37.5			7.0
	13.6	5.9	9.1	5.8			
10			2		1	1	4
			50.0		25.0	25.0	3.5
			18.2		9.1	50.0	
11		2					2
		100.0					1.7
		11.8					
Column Total	22 19.1	17 14.8	11 9.6	52 45.2	11 9.6	2 1.7	115 100.0

Chi-Square	D.F.	Significance	Min E.F.
83.25768	50	.0022	.035

Number of Missing Observations = 29

Table 3.17 Ranking of the Technical Update and the Educational Level of the Respondents

Educational Level

Technical Update (i.)	HIGHSCHOOL 1	2 YEARS POST SEC 2	2 YEAR DEGREE 3	BA DEGREE 4	MASTERS DEGREE 5	SPECIALIST DEGREE 6	Row Total
1	4						4
	100.0						3.4
	17.4						
2	2	3		2	1		8
	25.0	37.5		25.0	12.5		6.8
	8.7	16.7		3.8	9.1		
3	2	1	1	7			11
	18.2	9.1	9.1	63.6			9.4
	8.7	5.6	9.1	13.5			
4	3	2		4			9
	33.3	22.2		44.4			7.7
	13.0	11.1		7.7			
5	2	3	2	4	1	1	13
	15.4	23.1	15.4	30.8	7.7	7.7	11.1
	8.7	16.7	18.2	7.7	9.1	50.0	
6	4	1	2	7	1		15
	26.7	6.7	13.3	46.7	6.7		12.8
	17.4	5.6	18.2	13.5	9.1		
7	1	3					4
	25.0	75.0					3.4
	4.3	16.7					
8	3	1		6	4	1	15
	20.0	6.7		40.0	26.7	6.7	12.8
	13.0	5.6		11.5	36.4	50.0	
9	2	2	4	14			22
	9.1	9.1	18.2	63.6			18.8
	8.7	11.1	36.4	26.9			
10		1	2	7	3		13
		7.7	15.4	53.8	23.1		11.1
		5.6	18.2	13.5	27.3		
11		1		1	1		3
		33.3		33.3	33.3		2.6
		5.6		1.9	9.1		
Column Total	23	18	11	52	11	2	117
	19.7	15.4	9.4	44.4	9.4	1.7	100.0

Chi-Square	D.F.	Significance
71.23947	50	.0258

Number of Missing Observations = 27

Hypothesis 27: There is no significant difference between the ranking of the types of technical updates and the teaching field of the respondents.

In only one of the technical update activities, it was found that there was a dependent relationship with the teaching field of the faculty members. Because this was item (k.) "Other activities" it cannot be deemed significant (.0004**) as the respondents were asked to provide a listing of those activities. One other technical update activity was found to be near to being of significant difference at the .0539 level; item (j.) "Reading journals". Due to this lack of statistical significance, the null hypothesis could not be rejected.

Hypothesis 28: There is no significant difference between the ranking of the types of technical updates and the obsolescence of the faculty member's teaching field.

The variables were found to be independent of one another when the statistical calculations were completed. Thus, the null hypothesis could not be rejected.

Hypothesis 29: There is no significant difference between the ranking of the types of technical updates and the frequency at which the faculty member feels technical updates should be required.

These variables were found to be independent of one another, thus the null hypothesis could not be rejected.

Hypothesis 30: There is no significant difference between the ranking of the types of technical updates and the number of activities in which the faculty member participated.

These variables were found to be independent of one another when the statistical analysis was completed. Thus, the null hypothesis could not be rejected.

Hypothesis 31: There is no significant difference between the ranking of the types of technical updates and the percent of paid time.

These variables were found to be independent of one another, thus the null hypothesis could not be rejected.

Hypothesis 32: There is no significant difference between the ranking of the types of technical updates and the total number of days the respondents invested in technical updating in a typical year.

Table 3.18 depicts the findings for the cross-tabulations for the two sets of variables. Only one variable produces a significant difference; item (h.) "Exchanging places with professionals in your field". The level of significance was .0483*, and thus the null hypothesis was rejected on this variable alone.

Table 3.18 Ranking of the Technical Update and the Total Number of Days the Respondents Invested in Technical Updating in a Typical Year

Number of Days

Technical Update (h.)

Count / Row Pct / Col Pct	NONE 1	1-5 2	6-10 3	11-15 4	16-20 5	21 OR MORE 6	Row Total
1		2	2	1	1	1	7
		28.6	28.6	14.3	14.3	14.3	6.5
		6.3	7.7	6.3	7.1	6.3	
2	1	2	1		1		5
	20.0	40.0	20.0		20.0		4.6
	25.0	6.3	3.8		7.1		
3		2	1	2			5
		40.0	20.0	40.0			4.6
		6.3	3.8	12.5			
4		1	2	1		2	6
		16.7	33.3	16.7		33.3	5.6
		3.1	7.7	6.3		12.5	
5		1	1		4	2	8
		12.5	12.5		50.0	25.0	7.4
		3.1	3.8		28.6	12.5	
6		4	2	1	1	2	10
		40.0	20.0	10.0	10.0	20.0	9.3
		12.5	7.7	6.3	7.1	12.5	
7	3	1	2	2		1	9
	33.3	11.1	22.2	22.2		11.1	8.3
	75.0	3.1	7.7	12.5		6.3	
8		8	7	1	2	5	23
		34.8	30.4	4.3	8.7	21.7	21.3
		25.0	26.9	6.3	14.3	31.3	
9		3	2	3		2	10
		30.0	20.0	30.0		20.0	9.3
		9.4	7.7	18.8		12.5	
10		8	6	5	4	1	24
		33.3	25.0	20.8	16.7	4.2	22.2
		25.0	23.1	31.3	28.6	6.3	
11					1		1
					100.0		.9
					7.1		
Column Total	4 3.7	32 29.6	26 24.1	16 14.8	14 13.0	16 14.8	108 100.0

Chi-Square	D.F.	Significance
67.70504	50	.0483

Number of Missing Observations = 36

LIMITATIONS OF THE STUDY

One of the limitations of this study is that it applies primarily to the vocational-technical teaching faculty at the post-secondary level in the State of Iowa in that it dealt specifically with the Human Relations course required for re-certification and the Technical Update activities that these individuals have participated in during their professional careers.

In states with similar requirements for the Human Relations course, it may be possible to make several interpretations of this study which may have application elsewhere. This should be done with a great deal of caution as there are different delivery systems, provider institutions/agencies, and course content requirements found in states outside of Iowa.

Further, it may not be possible to apply these data findings to vocational-technical faculty members at the secondary level because of several differences in the certification requirements in general for K-12 teaching, which do not apply to the post-secondary level.

DISCUSSION

"Human Relations Course"

The findings of this investigation point toward a need to look more closely at the emphasis placed on two of the competencies, contained within the Human Relations course. There appears to be a need to reduce the emphasis on competency number one, "Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society" and increase the emphasis on competency number three, "Ability to translate knowledge of human relations into attitudes skills, and techniques which will result in favorable learning experiences for students." See Table 3.4, page 32 of this study.

While most respondents expressed concern about being required to take the Human Relations course, they did feel the course is necessary. Survey results also indicated strong use of the competencies. The course is being effectively delivered, with the exceptions of competency number four, "Ability to recognize the ways in which dehumanizing biases may be reflected in instructional materials", which rated lowest in Attainment and Use, and fifth in Necessity by the respondents.

When considering the responses with regard to instructor attributes, it was found that the overall assessment was strong, with a range of "positive" ratings from a minimum of 66% to a maximum of 88%. Once again, as

was found in the 1985 study, the instructors providing the certification courses, fail to demonstrate an understanding of the vocational-technical teaching field of the community college teaching faculty.

In other words, while some suggestions/techniques recommended by the instructor may be applicable to one area of vocational-technical study, that same technique would not fit in another area. Since the classes are comprised of a wide variety of vocational-technical instructors (Health and Trade & Industrial), this problem may be unavoidable. Overall, the delivery seems to be working. Most respondents (39%) stated that the Human Relations course should be offered before teaching begins. While this may be desirable, it is not practical in most instances.

It was noted by a majority of respondents (57%) that there should be a separate course for elementary/secondary faculty members and the community college faculty. Additionally, 55% of the respondents felt that they should have been given the opportunity to test out of the course as noted in Hypothesis number 14, Table 3.12 on page 72 of this study. Generally, the higher the level of education of the respondents, the greater the tendency was to feel that they should have been given the opportunity to test out of the Human Relations course.

There were 83 respondents (58%) who indicated that their teaching schedule did not interfere with their ability to complete the Human Relations course; Hypothesis number

10, Table 3.11, pages 69-70. It appears that some area schools are doing a better job than others in facilitating teaching schedules which reduce or eliminates interference with the faculty members' ability to complete the Human Relations course.

"Technical Updates"

There were three technical update activities which rated higher in effectiveness than they did in appeal for the respondents. Refer to Table 3.8, page 50. All three of these activities (A. C. and E.) were delivered by or available from Business and Industry.

Further, it should be noted that "part-time employment" ranked number two in effectiveness and number three in appeal, while "reading technical journals" was rated as effective, but had the lowest rating in appeal. Somewhat surprisingly was the respondent's ratings of "periodic conferences", which had medium appeal and low effectiveness.

It should be pointed out that 90% of the respondents indicated that technical updating should be required in their teaching field. At the same time, 80% stated that the technical updates should be required every one to two years.

With regard to the question of how essential it is that the respondents receive paid release time from the classroom in order to participate in technical updating, 68% indicated that it was "absolutely essential or strongly influenced their decision". Additionally, the responses to the question related to "how the respondents would use five

additional paid non-student contact days per year", indicated that 51% said they would use the time for technical update activities. It appears, when combining these two questions, that release time from class schedules, rather than using one's own time, greatly enhances the possibility that technical updating will occur.

The greatest barrier to acquiring technical updating is perceived to be the lack of budget on the part of the respondents, as noted by 57% of the responses. The most frequently mentioned response for "other" was the lack of time (presumably released time) to participate in technical updating.

While most faculty at many of the area schools indicated that they knew there was a formal staff development program at their institution (75%), several appeared confused on the issue. Most notably, they were, Areas V, VI, VII, and XI. See Hypothesis number 21 and Table 3.13 on pages 75-76.

Three null hypothesis were partially rejected. Rather than repeat these findings, the reader should refer to Hypothesis number 22 on page 77, number 23 on page 79, and number 25 on page 81.

RECOMMENDATIONS

1. Reduce the emphasis on competency number one, "Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society".

2. Increase the emphasis on competency number three, "Ability to translate knowledge of human relations into attitudes skills, and techniques which will result in favorable learning experiences for students."

3. Study whether competency number four, "Ability to recognize the ways in which dehumanizing biases may be reflected in instructional materials", should continue to be included in the Human Relations course. At the very least, greater emphasis should be placed on application and less on theory.

4. Human Relations course instructors need to be aware of a variety of techniques so that they may be better prepared to recommend teaching techniques that fit the diversity of their students/instructors.

5. The State Department of Public Instruction should study the feasibility of offering a separate course for elementary/secondary faculty members and the community college faculty in Human Relations.

6. The State Department of Public Instruction should develop a test for the purpose of allowing faculty members to "test out" of the Human Relations course. In addition,

they should develop a test out "delivery system". In other words, a means of providing reimbursement to Human Relations instructors who provide the "test out" opportunity.

7. Technical updates should be required at a frequency of no less than once every two years. Additionally, efforts should be made to schedule technical update activities during the normal work week.

8. In order to provide greater access to technical update activities, of the course/workshop variety, budgets need to be reviewed/increased. Alternatively, work experience (e.g. Summer internships), which require little budget and are very effective, should be encouraged.

CONCLUDING STATEMENT

This study provided analyses of responses from vocational-technical education faculty members at the post-secondary level in the State of Iowa. The faculty members responding to the survey instrument shed a great deal of light into the effectiveness of the delivery and content of the Professional Development System in Iowa. It is hoped that this study will be used to develop an improved delivery system for these important competencies. The future success of the community college system in Iowa depends solely upon the quality of instruction provided to the citizens who attend these fine institutions. It is inherently important that Iowa's most valuable resource, its people, receive the highest quality of instruction possible. A large portion of that instruction is contained within the vocational-technical field of educationj. An investment of time and money into the development of a valuable resource for the community college, its faculty members, seems to make a great deal of sense for the future of the great State of Iowa.

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APPENDIX A. SURVEY INSTRUMENT

ALLEN, AUSTIN, & ASSOCIATES
Delbert A. Shepard
Robert A. Mitchell
215 Slayton Avenue
Iowa Falls, Iowa 50126
515-648-4737

February 10, 1986

Dear Colleague:

For several years vocational-technical faculty in Iowa's community and technical colleges have been required to take the course "Human Relations" for recertification. In that time, there has not been a systematic evaluation of the effectiveness of the delivery and content of this course. Since there are several different institutions and agencies providing this course, it is essential that such a study be conducted.

Your name has been randomly selected from all vocational faculty from all of Iowa's community colleges who have taken the Human Relations course as required for recertification. You are asked to take the time to complete this survey instrument, seal it in the envelope provided and return it to your vocational-technical director or the person who distributed it to you.

In addition you are asked to respond to questions related to technical update activities which you have participated in as a part of your professional development and growth. Responses to these questions will be of assistance in serving your needs more effectively with regard to technical updating.

We cannot stress enough the value of this study. We believe the results will be very important to the future of vocational-technical certification requirements in the state of Iowa. It is therefore, imperative that we receive your input.

Please be assured that the information that you provide will be kept confidential. The control number on the survey will be used only for follow-up on those individuals who do not respond in a timely manner. Reporting of respondent information will NOT be made on an individual basis. The results of this study will be made available upon request to any respondent who participates in this study.

Thank you in advance for your cooperation. If you have any questions, please call either Del Shepard (515)-648-4737 or Bob Mitchell at (515)-281-2074.

Sincerely,

Del Shepard Bob Mitchell

Enclosure

"Determination of the Effectiveness of the Delivery and Content of the Human Relations Course and Technical Updates for Post-Secondary Full-Time Preparatory Program Instructors in the State of Iowa"

Control #_____

SECTION I. ASSESSMENT OF CONTENT

DIRECTIONS: Listed below are the major competencies for the Human Relations Course, required for certification. In the column to the left please indicate how necessary you feel each competency is to you as an instructor. To the right please indicate to what extent you were able to attain each of the competencies of the course, and to the far right please indicate how useful the course is to you as an instructor.

Please circle your level of need (NECESSITY) for each competency in your teaching assignment at your institution					COMPETENCIES	Please circle your level of ATTAINMENT for each competency as it relates to your teaching assignment at your institution					Please circle your level of USE of each competency in your teaching assignment at your institution				
NECESSITY						ATTAINMENT					USE				
Very Necessary		Moderately Necessary		Not Necessary		Adequately Attained		Partially Attained		Not Attained	Frequently Used		Rarely Used		Never Used
1	2	3	4	5	1. Awareness and understanding of the various values, lifestyles, history, and contributions of the various identified subgroups in our society.	1	2	3	4	5	1	2	3	4	5
1	2	3	4	5	2. Ability to recognize and deal with dehumanizing biases such as sexism, racism, prejudice, and discrimination and become aware of its impact on interpersonal relations.	1	2	3	4	5	1	2	3	4	5
1	2	3	4	5	3. Ability to translate knowledge of human relatons into attitudes, skills, and techniques which will result in favorable learning experiences for students.	1	2	3	4	5	1	2	3	4	5
1	2	3	4	5	4. Ability to recognize the ways in which dehumanizing biases may be reflected in instructional materials.	1	2	3	4	5	1	2	3	4	5
1	2	3	4	5	5. Understanding and respect for human diversity and the rights of each individual.	1	2	3	4	5	1	2	3	4	5
1	2	3	4	5	6. Ability to relate effectively to other individuals and various subgroups other than one's own.	1	2	3	4	5	1	2	3	4	5

SECTION II. ASSESSMENT OF DELIVERY

Using the **five** point scale provided below, please indicate your overall assessment of the qualities of instructor for the Human Relations Course. The instructor's name will not be used in the reporting of research results, but rather for statistical purposes ONLY.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Instructor's(s') Name Who Taught Course: * _____ *If course taught by more than one instructor, please make a copy of this form and evaluate each instructor separately.
1	2	3	4	5	1. Appeared qualified to teach the course.
1	2	3	4	5	2. Established objectives and taught toward them.
1	2	3	4	5	3. Attempted to understand my voc-tech teaching field.
1	2	3	4	5	4. Demonstrated a positive role model for me.
1	2	3	4	5	5. Was prepared to teach each lesson.
1	2	3	4	5	6. Used class time efficiently.
1	2	3	4	5	7. Presented material clearly.
1	2	3	4	5	8. Was concerned with helping me apply the competencies to my own classroom.
1	2	3	4	5	9. Was enthusiastic.
1	2	3	4	5	10. Evaluated outcomes of the course appropriately.
1	2	3	4	5	11. Used class time effectively.
1	2	3	4	5	12. Varied teaching methods used in this course.
1	2	3	4	5	13. Used appropriate teaching methods for this course.
1	2	3	4	5	14. Taught me to use of competencies in working with my students' human relations.
1	2	3	4	5	15. Used good human relations in dealing with me as an individual.

SECTION III. PROVIDER INFORMATION

This information will enable the researchers to make recommendations concerning the delivery of the Human Relations course. Please circle your responses that best describe your reaction to each statement.

A. Who should determine the schedule of offering of the Human Relations course?

1. The Iowa State Department of Public Instruction
2. The institution/agency offering the course
3. Your employer/supervisor
4. Participants needing the course
5. Other (Specify)_____

B. Indicate how you took this course. (Circle all that apply)

1. Classroom instruction
2. Workshop (concentrated blocks of time)
3. Evening
4. Weekend
5. Summer
6. During the school year
7. During my work day
8. Other (Specifiy)_____

C. Indicate the institution/agency offering the course (Be specific by naming provider).

_____

D. Describe how you learned of the course offering.

1. Personnel office
2. Faculty/staff members
3. The Iowa State Department of Public Instruction
4. Your supervisor
5. Grapevine
6. Direct mail from institution/agency offering course
7. Other (Specify)_____

E. Ideally when should the Human Relations course be required?

1. Before teaching begins
2. During the first six years of teaching
3. As the last course before recertification
4. Other (Specify)_____

F. To what extent did your teaching schedule interfere with your ability to complete this course?

1. Did not affect at all
2. Somewhat affected
3. Excessively affected
4. Other (Specify)_____

G. Should there be a separate course for elementary/secondary faculty and community college faculty?

1. Yes
2. No

H. Should you have been given the opportunity to have tested out of this course?

1. Yes
2. No

I. If Yes, what kind of test should have been used?

_____

J. Who should be authorized to offer this course?

1. Regents institutions (U of I, UNI, ISU)
2. Private colleges and universities
3. Area education agencies
4. Area community colleges
5. Private contractors
6. Other (Specifiy)_____

SECTION IV. RESPONDENT INFORMATION

The information obtained from this section of the survey instrument will be of assistance in identifying information by the various demographic categories. This information will be kept confidential of course, and reporting will be made in this research study only in general demographic categories. The control number will be used only to identify those individuals that have responded to the survey and for follow-up purposes for those who do not respond. No reporting will be made with reference to any individual.

DIRECTIONS: To determine the effectiveness of the delivery and content of the Human Relations course offered in the State of Iowa, it is necessary to analyze the responses of individuals who have taken the course. The following respondent information is requested to permit this analysis. Please circle the number which applies for each response. Circle only one number unless instructed.

A. Total Years of teaching experience at current institution:

1. 1 - 2 years
2. 3 - 4 years
3. 5 - 6 years
4. 7 - 8 years
5. 9 or more years

B. Total years of prior teaching experience:

1. 1 - 2 years
2. 3 - 4 years
3. 5 - 6 years
4. 7 - 8 years
5. 9 or more years

C. Total years of work experience in business and industry:

1. 1 - 3 years
2. 4 - 6 years
3. 7 - 9 years
4. 10-12 years
5. 13 or more years

D. Highest educational level attained:

1. High School Diploma
2. Two years of post-secondary (without degree)
3. Two years of post-secondary (with degree)
4. Bachelor's Degree
5. Master's Degree
6. Specialist's Degree
7. Doctorate Degree

E. Is there a formal staff development program at your institution?

1. Yes
2. No

F. Did the completion of the Human Relations Course result in a salary increase or advancement?

1. Yes
2. No

G. Please indicate your institution:

1. Area I	9. Area IX
2. Area II	10. Area X
3. Area III	11. Area XI
4. Area IV	12. Area XII
5. Area V	13. Area XIII
6. Area VI	14. Area XIV
7. Area VII	15. Area XV
8. None	16. Area XVI

H. Please indicate your field of teaching:

1. Agriculture
2. Marketing and Distributive
3. Business/Office Education
4. Home Economics
5. Health Occupations
6. Trade and Industrial
7. Technical
8. Other (Specify)_____

SECTION V. TECHNICAL UPDATES

"Technical Updates" means those professional development activities that add to your knowledge in your field and therefore influence WHAT you teach.

A. APPEAL, PARTICIPATION, AND PERCEIVED EFFECTIVENESS OF THE VARIOUS TYPES OF TECHNICAL UPDATE ACTIVITIES.

	1. Please rank the following types of Technical Update options in the order they appeal to you with "1" being your first choice, etc.	2. Check each of the items listed to the left which you have participated in as a part of your Technical Update activities	3. Please rate the overall Effectiveness of those activities in which you have participated by using the rating scale provided below				
			EFFECTIVENESS				
			Very Effective		Moderately Effective		Not Effective
_____	a. Workshop/courses on your campus taught by Business/Industry.	_____	1	2	3	4	5
_____	b. Workshop/courses on your campus taught by a College/University.	_____	1	2	3	4	5
_____	c. Workshop/courses off campus taught by Business/Industry.	_____	1	2	3	4	5
_____	d. Workshop/courses off campus taught by a College/University.	_____	1	2	3	4	5
_____	e. Work experience/intership at a Business/Industry facility.	_____	1	2	3	4	5
_____	f. Periodic (e.g. annual) conference attended by your peers.	_____	1	2	3	4	5
_____	g. Part-time employment (conducting workshops, consulting, etc.).	_____	1	2	3	4	5
_____	h. Exchanging places with professionals in your field.	_____	1	2	3	4	5
_____	i. Communication with your advisory committee.	_____	1	2	3	4	5
_____	j. Reading journals.	_____	1	2	3	4	5
_____	k. Other activities:_____	_____	1	2	3	4	5

B. RESPONDENT INFORMATION CONCERNING TECHNICAL UPDATES

1. What percent do you feel of what you teach is obsolete within 4 years?

   a. Between 76% and 100%.

   b. Between 51% and 75%.

   c. Between 26% and 50%.

   d. Less than 25%.

2. Should Technical Updating in your field be required?

   a. Yes

   b. No

   c. Don't Know

3. How many Technical Update activities have you participated in during your total years of teaching? (Please refer to Page 5 Section V for examples of activities).

   a. None

   b. 1 - 3

   c. 4 - 6

   d. 7 - 9

   e. 10 - 12

   f. 13 or more

4. What percent of the Technical Update activities you participated in were paid as "released time"?

   a. None

   b. Less than 25%

   c. Between 26% and 50%

   d. Between 51% and 75%

   e. Between 76% and 100%

5. If your answer to item #2 is "yes", how frequently should it be required?

   a. Every year.

   b. Every 2 years.

   c. Every 3 years.

   d. Every 4 years.

   e. Every 5 years.

6. Given the frequency you have indicated above, how many contact hours of Technical Updating should be required?

   a. None

   b. 1 to 10

   c. 11 to 20

   d. 21 to 30

   e. more than 30

7. In a typical year, which figure best represents the total number of days you invest in Technical Updating?

   a. None

   b. 1 - 5

   c. 6 - 10

   d. 11 - 15

   e. 16 - 20

   f. 21 or more

8. In order for you to participate in Technical Updates, how essential is it that you have paid release time from the classroom?

   a. Absolutely essential

   b. Strongly influences my decision

   c. Somewhat influences my decision

   d. I believe in using my own time for Technical Updating

9. If you had five additional paid non-student contact days per year, how would you use them?

   a. Research

   b. Rest and Relaxation

   c. Technical Update activities

   d. Organize my office

   e. Other (Describe):_____

10. How much would you be willing to spend out of your own pocket to be able to attend some type of Technical Update activity?

   a. Nothing

   b. Up to $50

   c. Up to $100

   d. Up to $250

   e. Up to $500

11. Who should be primarily responsible for initiating the Technical Upodate activity?

   a. Faculty member

   b. Local administrator

   c. Vocational/technical advisory committee

   d. A workshop/course provider

   e. Iowa Department of Public Instruction

12. How much input do you have in determining your Technical Update program activities?

   a. My program is totally up to me

   b. My Dean or Director and I usually determine together

   c. I'd like to have more input

   d. Someone else decides what I need

13. What is the greatest barrier to acquiring Technical Updating?

   a. Lack of budget

   b. Lack of qualified substitue teachers

   c. Lack of internal staff to "cover" classes

   d. Approval required too far in advance ("red tape")

   e. Internal politics

   f. Other_____

14. Do you feel that you have equal access to Technical Update activities?

   a. Yes

   b. No

   c. Don't know

C. ORGANIZATIONAL INFORMATION

1. Are you aware of a procedure/process in your institution that enables you to receive Teaching Certificate Renewal Credit for the "approved" Technical Update activities in which you participate?

   a. Yes

   b. No

   c. Don't know

2. If your answer to item #1 above is "yes", what is your opinion of how your institution's procedure is working?

   a. It works very well

   b. It works "o.k."

   c. It doesn't work very well

   d. It doesn't work at all

   e. No opinion—haven't used it

3. Does your institution have a "committee" which locally approves and "funds" your Technical Update requests/activities?

   a. Yes

   b. No

   c. Don't know

4. If the Technical Update activity is "paid for" by your institution, would you receive credit on your institution's salary schedule?

   a. Yes

   b. No

   c. Don't know

5. If the Technical Update activity is "paid for" by YOU, would you receive credit on your institution's salary schedule?

   a. Yes

   b. No

   c. Don't know

6. Does your institution use some sort of objective system (e.g. a "rotational program") for providing you a systematic opportunity to participate in Technical Update activities?

   a. Yes

   b. No

   c. Don't know

Thank you for your cooperation in completing this research survey. Please seal the envelope provided and return to your Vocational-Technical Director.